

Algebraic Concepts
Lesson 23 Worksheet
Math for Standards

Name _____

Date _____

For each question, you need to find the answer and show your work. Each problem is worth 3 points: one for the correct answer and two for showing your work. For some problems, you may just need to write out how you know you have the correct answer.

In questions 1-5, decide whether the relationship is an inverse variation. If it is, identify the equation that shows the relationship between the variables.

1.

x	9	15	24	30
y	10	6	3.75	3

2.

x	6	4	3	0.5
y	3	4.5	6	36

3.

x	2	10	16	40
y	10	2	1.25	0.5

4.

x	7	12	14	21
y	3	2.5	1.5	1

5.

x	-1	-3	-6	12
y	-12	-4	-2	1

6. If the area of a triangle does not change, the relationship between the lengths of the base and height are an inverse relationship. If the base of a triangle is 12 cm when the height is 8 cm, what is the length of the base when the height is 20 cm?

7. A trip takes 15 hours at an average rate of 60 miles per hour. How long would the same trip take at an average rate of 50 miles per hour?

8. A team of 6 students can solve a certain number of math problems in 120 minutes. How long would it take a team of 10 students, working at the same rate, to solve the same number of problems?

Open-Ended Question: Write your answer on separate sheet of paper. Make sure as you answer the open-ended question that you show your work AND explain how you know you are doing the correct work. YOU MUST EXPLAIN WHAT YOU ARE DOING!!!

A crew of 3 workers can complete a construction job in 15 days.

A. Create a table showing how many days would be needed to complete the job by 5 workers, 9 workers, and 15 workers.

B. Using x for workers and y for days, write an equation to represent the relationship. Would a graph of the situation be linear?